Dynamic regulation of subcellular calcium handling in the atria

Propositions to accompany the thesis

Dynamic regulation of Subcellular Calcium Handling in the Atria

Patrick Schönleitner

1. Acute uni-axial stretch increases Ca^{2+} spark frequency in atrial myocytes.

2. SAC_{ns} block does not abolish triggered activity evoked by uni-axial stretch of atrial myocytes.

3. Isoprenaline dependent RYR phosphorylation is insufficient to increase Ca^{2+} spark frequency from uncoupled RyRs.

4. Short term rapid atrial pacing leads to a reduction in transverse tubules in rabbit atrial myocytes.

5. Stretch and adrenergic stimulation increase subcellular contractile heterogeneity.

6. The complex structure of the atria and the limited control over experimental parameters pose a serious challenge for translating in-vitro findings to in-vivo setting.

7. SAC block is a novel and promising antiarrhythmic approach to AF under conditions of elevated atrial pressure or volume.

8. In scientific research easy things are often hard and hard things frequently impossible.

9. “An expert is [someone] who has made all the mistakes which can be made in a narrow field.” – Niels Bohr

10. "Der Mensch geht immer nur so weit, wie er glaubt, dass die Welt geht.“ - Thomas Bernhard